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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/046,597 | 12/18/2001 | Gilbert Yoh | 10011042-1 | 2843 |

7590 04/12/2005

AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

| EXAMINER | |
|---|---|
| WARE, CICELY Q | |
| **ART UNIT** | **PAPER NUMBER** |
| 2634 | |

DATE MAILED: 04/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/046,597 | YOH ET AL. | |
| | Examiner | Art Unit | |
| | Cicely Ware | 2634 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *18 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *8-20* is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☒ Claim(s) *6 and 7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Specification*

1. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *Claim Objections*

2. Claim 2 is objected to because of the following informalities:

a. Claim 2, line 3, applicant uses "incracsing". Examiner suggests using "increasing" for clarification purposes.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

3. Claims 4, 10 and 17 recites the limitation "the group consisting".

a. Claim 4, line 2, recites the limitation "the group consisting". There is insufficient antecedent basis for this limitation in the claim.

b. Claim 10, line 2, recites the limitation "the group consisting". There is insufficient antecedent basis for this limitation in the claim.

c. Claim 17, line 2, recites the limitation "the group consisting". There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fong et al. (US Patent Application 2002/0154718), in view of Masleid et al. (US Patent 6,532,544).

(1) With regard to claim 1, Fong et al. discloses in (Fig. 1 and Fig. 2) a system for matching data and clock signal delays, comprising: a clock buffer (Fig. 2 (105)) for driving said received clock signal to a register; a data receiver (Fig. 2 (115)) for removing noise from received data (Pg. 1, lines 31-43, 46-47).

However Fong et al. does not disclose at least one miniature clock buffer, wherein said at least one miniature clock buffer is a scaled version of said clock buffer, said miniature clock buffer having a scaling factor of K, said scaling factor representing a number of said miniature clock buffers utilized to minimize negative variations experienced by said clock buffer.

However Masleid et al. discloses at least one miniature clock buffer, wherein said at least one miniature clock buffer is a scaled version of said clock buffer, said miniature clock buffer having a scaling factor of K, said scaling factor representing a number of said miniature clock buffers utilized to minimize negative variations experienced by said clock buffer (col. 2, lines 52-66, col. 5, lines 14-26).

Therefore it would have been obvious to one or ordinary skill in the art to modify Fong et al. in view of Masleid et al. to incorporate at least one miniature clock buffer, wherein said at least one miniature clock buffer is a scaled version of said clock buffer, said miniature clock buffer having a scaling factor of K, said scaling factor representing a number of said miniature clock buffers utilized to minimize negative variations experienced by said clock buffer in order to have a strong skewed distribution of power consumption and provide minimum clock latency (Masleid et al., col. 2, lines 55-56, 64-65).

(2) With regard to claim 2, claim 2 inherits all the limitations of claim 1. Masleid et al. further discloses driving of said received clock signal is performed by adding a gain factor to said received clock signal, thereby increasing strength of said clock signal to allow propagation to said register (col. 1, lines 20-28, col. 2, lines 52-66, col. 5, lines 14-19, 61-64).

(3) With regard to claim 3, claim 3 inherits all the limitations of claim 1. Masleid et al. further discloses wherein said clock buffer provides an amount of delay that slows progression of said clock signal in a path to said register (col. 1, lines 59-63, col. 2, lines 52-66).

6. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fong et al. (US Patent Application 2002/0154718), in view of Masleid et al. (US Patent 6,532,544) as applied to claim 1, in view of Liepe (US Patent 6,788,754).

(1) With regard to claim 4, claim 4 inherits all the limitations of claim 1. Fong et al. in combination with Masleid et al. disclose all the limitations of claim 1 above. However Fong et al. in combination with Masleid et al. do not disclose wherein said negative variations are selected from the group consisting of process, voltage and temperature.

However Liepe discloses in wherein said negative variations are selected from the group consisting of process, voltage and temperature (col. 1, lines 13-21, 41-48, 52-56, col. 2, lines 60-63, col. 3, lines 44-46, col. 8, lines 5-9).

Therefore it would have been obvious to one of ordinary skill in the art to modify Fong et al. in combination with Masleid et al. in view of Liepe to incorporate wherein said negative variations are selected from a group consisting of process, voltage and temperature in order to achieve transmission time consistency among a plurality of signal paths (Liepe, col. 1, lines 49-51).

(2) With regard to claim 5, claim 5 inherits all the limitations of claim 1. Liepe further discloses wherein said system is located within receive logic situated on an application specific integrated circuit because they have undesired transmission time variations between alternative signal paths (col. 1, lines 7-11, col. 2, lines 50-54).

***Allowable Subject Matter***

7. Claims 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses a system for

matching data and clock signal delays. Prior art references show similar methods but fail to teach: **"a setup time of said receive logic is represented by the equation: T.sub.setup=T.sub.reg-setup+0.1.times.(-T.su- b.clk-dly)-T.sub.clk-rte(min) wherein, T.sub.reg-setup is a setup time for said register, T.sub.clk-dly is a delay contributed by said clock buffer, and T.sub.clk-rte(min) is a minimum delay contributed by propagation of said clock signal to said register"**, as in claim 6; and **"in a hold time of said receive logic is represented by the equation: T.sub.hold=T.sub.reg-hold+0.1.times.(T.sub.c- lk-dly)+T.sub.clk-rte(max) wherein, T.sub.reg-hold is a hold time for said register, T.sub.clk-dly) is a delay contributed by said clock buffer, and T.sub.clk-rte(max) is a maximum delay contributed by propagation of said clock signal to said register"**, as in claim 7.

8. Claims 8-20 are allowed.

9. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses a system for matching data and clock signal delays. Prior art references show similar methods but fail to teach: **"minimizing set up and hold times of said receive logic"**, as in claims 8, 15.

***Conclusion***

10. The prior art made record of and not relied upon is considered pertinent to applicant's disclosure:

a. Kim, US Patent 6,424,190 discloses an apparatus and method for delay matching of full and divided clock signals.

b. Coddington et al. US Patent 6,294,938 discloses a system with DLL.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 571-272-3047. The examiner can normally be reached on Monday – Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

*Cicely Ware*

AMANDA T. LE
PRIMARY EXAMINER

cqw
April 5, 2005